

# Notice of Allowability

Application No.

09/770,819

Examiner

Phuong Phu

Applicant(s)

SAITO ET AL.

Art Unit

2631

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on 7/1/04.
2. ☒ The allowed claim(s) is/are 1 and 3-5.
3. ☒ The drawings filed on 26 January 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### **EXAMINER'S AMENDMENT**

1. This Office Action is responsive to the Amendment filed on 7/1/04.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Joseph Sofer on 09/06/2004.

The application has been amended as follows:

#### **IN THE CLAIMS:**

- In claim 3, on line 9, after the limitation "the divided signal into signals", the phrase --within a plurality of slots--has been inserted.
- In claim 3, on line 12, after the limitation "a first slot", the phrase --of the plurality of slots-- has been inserted.
- In claim 3, on line 15, the limitation "the correlation" has been replaced with the phrase --a correlation--.
- In claim 3, on line 7, the limitation "a correlation circuit" has been replaced with the phrase --the correlation circuit--.

### **REASONS FOR ALLOWANCE**

3. Claims 1 and 3-5 are allowed.
4. The following is an examiner's statement of reasons for allowance:

References (5,533,012), (6,192,067) and (5,467,368) are additionally cited because they are pertinent to the claimed invention.

As per independent claim 1, Both of Madkour et al (6,574,270), previously cited, and Sawashashi et al (6,137,788), previously cited, fail to teach an interference canceller device which comprises a slot configuration circuit for dividing a reception signal at certain time intervals, such that one of the divided signals partially overlaps another divided signal at a signal dividing point, in associated and combined with other limitations recited in the claim. It would not have been obvious for one skilled in the art to implement either of Madkour et al and Sawashashi et al in view of other prior art of record in order to lead such an implementation to the claimed invention.

As per independent claim 3, Both of Madkour et al and Sawashashi et al fail to teach an interference canceller device which comprises a slot configuration circuit for dividing a reception signal at certain time intervals and converting the divided signal into signals within a plurality of slots wherein only a first slot of the plurality of slots is allowed to pass through and the rest of the slots is disallowed to pass, and the signal whose second slot and subsequent slots are subject to an interference cancellation process and then fed-back, is inputted into a correlation circuit. It would not have been obvious for one skilled in the art to implement either of Madkour et al and Sawashashi et al in view of other prior art of record in order to lead such an implementation to the claimed invention.

As per independent claim 4, Both of Madkour et al and Sawashashi et al fail to teach an interference canceller device which comprises a stage addition circuit, in associated and combined with other limitations recited in the claim. It would not have been obvious for one

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skilled in the art to implement either of Madkour et al and Sawashashi et al in view of other prior art of record in order to lead such an implementation to the claimed invention.

As per independent claim 5, Both of Madkour et al and Sawashashi et al fail to teach an interference canceller device which comprises a correlation circuit, in associated and combined with other limitations recited in the claim. It would not have been obvious for one skilled in the art to implement either of Madkour et al and Sawashashi et al in view of other prior art of record in order to lead such an implementation to the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Phuong Phu 9/6/04*

Phuong Phu

Phuong Phu  
Primary Examiner  
Art Unit 2631

**PHUONG PHU  
PRIMARY EXAMINER**